



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/774,493   | 02/10/2004  | Staffan Jonsson      | 2333-128            | 1122             |
| 23117  | 7590        | 05/19/2005           | EXAMINER            |                  |
| NIXON & VANDERHYE, PC<br>901 NORTH GLEBE ROAD, 11TH FLOOR<br>ARLINGTON, VA 22203 |             |                      | TUGBANG, ANTHONY D  |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 3729                |                  |

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/774,493

Applicant(s)

JONSSON, STAFFAN

Examiner

A. Dexter Tugbang

Art Unit

3729

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 27-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/10/04</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Priority*

1. This application filed does contain the necessary reference to the prior application, i.e. 09/377, 833. However, the reference does not contain the current status of the parent nonprovisional application(s).

In the specification, page 1, paragraph [0001], line 2, "pending" should be changed to -- now U.S. Patent 6,735,845--.

### *Specification*

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: A Method of Manufacturing a Sensor Element having Integrated Reference Pressure.

### *Drawings*

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claim 33 is rejected under 35 U.S.C. 102(a) as being anticipated by the Applicant(s) Admitted Prior Art, referred to hereinafter as the AAPA.

The AAPA (specification, pages 1-5 and Prior Art Figures 1-3) a method a producing a pressure sensor comprising: a pressure sensor house assembly (shown in Fig. 3) having a reference cavity 13 in which a high vacuum exists; a getter (NEG 28) capable of being thermally activated; an outside connection (channel 27); pumping air out of the reference cavity (see flow path arrows in Fig. 2); closing the outside connection 27 with a lid (tube 25); and activating the getter (NEG 28) by directly conducting heat via the lid 25 and by maintaining the heated lid 25 in direct contact with the getter 28 for a predetermined period of time.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3729

7. Claims 27, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soviet Union Patent Publication SU 1362971, referred to hereinafter as SU'971, in view of Schiabel et al 5,916,479.

SU'971 discloses a method of producing a pressure sensor comprising: a thermally activatable getter 5; a pressure sensor house assembly 4 having a reference cavity with a channel on the bottom of the house to accommodate the getter (see Fig. 2); providing a vacuum or vacuum body; moving a solid body (cap 9 and nipple 8) from a position exterior of the reference cavity into direct mechanical contact with the getter 10; activating a heat source to conduct heat from the heat source through the solid body to the getter for a predetermined period of time (all of which is discussed in the English Language Translation).

Regarding Claim(s) 28, SU'971 further teaches that the heat hermetically seals the pressure sensor house assembly with the solid body (see page 2 of English Translation).

Regarding Claim(s) 30, the "outside connection" is read as the recess (shown in Fig. 2) that holds the nipple 6 and that air is pumped out of the reference cavity via the outside connection. SU'971, as with Claim 28 above, further teaches that heat hermetically seals the pressure sensor house assembly with the exterior

SU'971 teaches substantially all of the limitations of the claimed production method except that the solid body is connected to a heat source (required at line 5 of Claim 27) and removing the heat source from being connected to the solid body (required at line 9 of Claim 27).

Schiabel teaches activating getter material by the use of a heat source of either laser radiation, or induction heating, to thermally activate the getter material to the extent that purposely creates a vacuo or vacuum process (discussed at col. 2, lines 31-38). During

Art Unit: 3729

activation, the heat source is connected to a solid body to activate the getter material. When the activation is completed, the heat source, i.e. laser radiation or induction heating, is subsequently removed from being connected with the getter and the solid body since the heat source is not considered part of the final structure of the pressure sensor house assembly.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the SU'971 method by having the solid body connected to the heat source and subsequently removing the heat source from the solid body of either laser radiation or induction heating, as taught by Schiabel, to positively provide an alternative heating means that thermally activates the getter material.

8. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over SU'971 in view of Schiabel, as applied to Claim 27 above, and further in view of Ko 5,443,410.

SU'971, as modified by Schiabel, teaches the claimed production method as previously discussed. The modified SU'971 method does not teach that the direct mechanical contact of the solid body with the getter is elastic.

Ko teaches that a solid body can have an elastic direct mechanical contact with a getter through an elastic contact (wing portions 8b in Fig. 5) to advantageously direct diffusion of the getter material by a folded angle  $\alpha$ , during heating or activation of the getter material (see col. 2, lines 38-45).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have improved the modified method of SU'971 by utilizing the elastic direct mechanical contact of the solid body to the getter, as taught by Ko, to positively direct diffusion of the getter material at a certain folded angle.

Art Unit: 3729

9. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over SU'971 in view of Schiabel, as applied to Claim 31 above, and further in view of the AAPA.

SU'971, as modified by Schiabel, discloses the claimed production method as relied upon above in Claim 21, further including: producing the pressure sensor house assembly having the reference cavity arranged therein with a single closing channel (channel above lid 8 not labeled in Fig. 2) and a mouth (recess in element 4 that holds nipple 6); pumping air out of room so that a vacuum is obtained; heating a closing lid (nipple 6) and placing the closing lid over the mouth of the closing channel; and allowing the closing lid to cool once the heat source is removed.

The modified SU'971 method does not mention that: 1) the pressure sensor house is made of substantially ceramic material; and 2) the closing lid includes an arrangement of glass joint material.

The AAPA (specification, page 3) teaches that it is conventional, as well as notoriously old and well known in the art, to form pressure sensor housings of substantially ceramic material for the purpose of providing gas impermeability. Furthermore, the AAPA teaches that a closing lid can include molten glass material, i.e. an arrangement of glass joint material, to aid in sealing the cavity of the sensor housing.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was to have provided the modified SU'971 method with such ceramic and glass materials for the purposes of achieving gas impermeability and sealing of the pressure sensor housing.

Art Unit: 3729

***Conclusion***

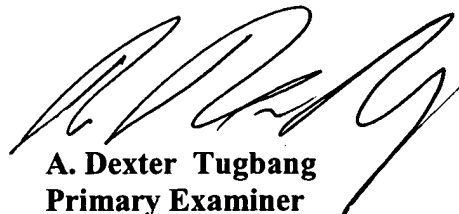
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 571-272-4570.

The examiner can normally be reached on Monday - Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**A. Dexter Tugbang**  
**Primary Examiner**  
**Art Unit 3729**

May 16, 2005